



National Aeronautics and  
Space Administration

Washington, D.C.  
20546

Div to Ann of: F

September 15, 1983

Colonel Gilbert D. Rye  
Director for Space Programs  
National Security Council  
Old Executive Office Building  
Room 300  
Washington, D.C. 20506

Dear Colonel Rye:

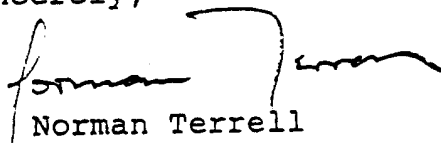
As Co-Chairmen of the SIG (Space) Working Group on the Commercialization of ELVs, we are pleased to transmit the enclosed report of the Working Group.

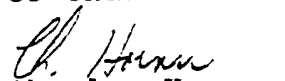
In accordance with the directives in NSDD-94, the Working Group addressed the following issues in its report:

- (a) Streamlining procedures used in the interim to implement existing licensing authority;
- (b) Developing and coordinating the requirements and process for the licensing, supervision, and/or regulations applicable to routine commercial launch operations from commercial ranges; and
- (c) Recommending the appropriate Lead Agency within the U.S. Government to be responsible for commercial launch activities.

The Working Group was unable to reach a consensus on the Lead Agency's responsibilities regarding obtaining information from other agencies and recommending changes to U.S. policies as they relate to ELV commercialization. These differences are presented and discussed in the report.

Sincerely,

  
Norman Terrell  
Co-Chairman

  
Charles Horner  
Co-Chairman

Enclosure

REPORT  
ON  
US GOVERNMENT  
ORGANIZATION AND PROCESS  
FOR HANDLING  
US COMMERCIAL  
SPACE LAUNCH OPERATIONS

15 SEPTEMBER 1983

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## ELV COMMERCIALIZATION EXECUTIVE SUMMARY

US Government supervision and regulation of commercial launch operations fall into two basic categories: (1) mission approval and (2) launch operations. For mission approval, the existing ITAR and FCC approval process, enhanced by suggestions in this report, should continue to be utilized. No process has yet been established for launch operations from a commercial range. The Lead Agency should chair an interagency group of affected Federal agencies and those that possess appropriate technical and operational expertise in space launches, to develop the minimum necessary procedures or regulations for licensing and supervising launch operations. Whereas DOD or NASA are responsible for controlling operations on the National Ranges, DOT/FAA should be responsible for administering commercial launch range safety regulations, once developed. Until these new procedures are established, the process now being utilized is adequate for controlling the current low level of commercial launch operation activity. For national ranges, no additional requirements or criteria beyond existing DOD and NASA requirements or range standards should be imposed.

Some of the Working Group members, including the candidates for the Lead Agency role, prefer that an Executive Order be issued to designate the Lead Agency and its responsibilities, rather than an NSDD, because some of the agencies which will be involved in the approval process are not members of the NSC and do not normally operate with NSDD's. In addition, Executive Orders would get wider circulation within the private sector.

The Lead Agency's primary responsibility should be to oversee and facilitate the implementation of the President's policy on commercialization of ELVs. The Working Group agrees that the Lead Agency should perform the following functions:

- act as a focal point within the USG for private sector contacts;
- handle, coordinate and expedite requests for commercial ELV launches;
- ensure consistent application of ELV licensing requirements for the private sector;
- serve as a single collection point for documentation;
- establish reasonable processing deadlines;
- resolve any problems with senior management of relevant agencies;
- refer appropriate matters to the SIG (Space) for review;
- promote and encourage commercial space launches in the same manner that other private US commercial enterprises are promoted by US agencies;

- streamline procedures for approval of licenses;
- ensure fair and equitable treatment for all private sector applicants; and
- perform a strategic planning function regarding long-term effects of Government activities related to ELV commercialization.

The Working Group disagrees on

- (1) the role the Lead Agency should play in reviewing and suggesting changes in US Government policy, and
- (2) whether it should be able to obtain internal agency information on matters which it believes could affect the commercialization of ELVs.

The majority (State, Commerce, DOD, DOT, DCI, ACDA, JCS, FAA, OSTP) recommends that the Lead Agency should have the ability to obtain information from involved agencies on agency actions which may affect the commercialization of ELVs. They believe that all involved agencies should provide the Lead Agency this information to the fullest extent possible. The Lead Agency should have the responsibility to identify Government policies which might have an adverse impact on ELV commercialization.

NASA recommends that the Lead Agency should be responsible for explaining to the private sector decisions which have been taken by US Government agencies relating to ELV commercialization which may affect ELV commercialization. For their part, all involved agencies should provide the Lead Agency with relevant, publicly available information for this purpose.

Two agencies emerged from the Working Group review as candidates to be Lead Agency -- the Department of Commerce and the Department of Transportation. The Working Group believes that either agency would be suitable as Lead Agency.

## I. INTRODUCTION

On May 16, 1983 the President issued a policy on Commercialization of Expendable Launch Vehicles (NSDD-94) that carries forward from the President's National Space Policy (NSDD-42) which "encourages US private sector investment and involvement in civil space activities." NSDD-94 specifically encourages the US private sector development of commercial launch operations and further states that the US Government fully endorses and will facilitate the commercialization of US Expendable Launch Vehicles (ELVs). It also established an interim SIG (Space) Working Group on Commercial Launch Operations to prepare a report that would: (a) streamline the procedures used in the interim to implement existing licensing authority; (b) develop and coordinate the requirements and processes for the licensing, supervision, and/or regulations applicable to routine commercial launch operations from commercial ranges; and (c) recommend the appropriate lead agency within the U.S. Government to be responsible for commercial launch activities. Working Group members are listed in Appendix A.

The Working Group concluded that there should be a two-stage process for the approval of both missions and launch operations for a commercial launch activity (defined for purposes of this report as "private sector launches from either a national or commercial range"). In addition, it was recognized that US Government requirements and procedures for constructing and operating a commercial launch range for routine space launches need to be developed. The Working Group further reviewed the licensing procedures and recommended ways for streamlining these procedures.

The Working Group believes that the Lead Agency, prior to adopting the above procedures formally, should afford US industry and other interested private parties full opportunity to make inputs to and comments on the requirements and procedures. The Congress should also be afforded an opportunity to comment on them.

Finally, the Working Group developed and discussed lead agency responsibilities and considered potential candidates for a USG Lead Agency. Consensus was not reached on these two specific issues.

All of the above items are discussed below.

## II. US GOVERNMENT SUPERVISION AND REGULATION OF COMMERCIAL LAUNCH ACTIVITIES

The processes applicable to US Government supervision and regulation of commercial launch operations fall into two basic categories: (1) mission approval, and (2) launch operations. A mission approval is currently obtained by securing an International Traffic in Arms ("ITAR") license from the Department of State. The Department of State considers the national security, foreign policy, and technology transfer aspects of the requested mission, coordinating on a case-by-case basis with the Department of Defense, the Director of Central Intelligence, the Arms Control and Disarmament Agency, the National Aeronautics and Space Administration and, in some instances, the Department of Commerce. Once designated, the Lead Agency would also be involved to monitor the process. Approval should be granted to any mission unless it is inconsistent with United States interests or violates USG international obligations or laws.

The "commercial launch operations" process has yet to be established and will involve ensuring compliance with regulations and procedures and the physical conducting of the actual launch operations. For US national ranges, regulations and procedures already exist and are implemented under the authority of DOD or NASA.\* No changes should be required to these operational procedures to conduct commercial ELV operations from the National Ranges.

An interagency group is needed to develop US Government procedures and regulations for the establishment of new commercial launch ranges. This process is, in essence, a one-time effort. Once these procedures and regulations are prepared and documented, this task ends and implementation is passed to the appropriate US Government agency responsible for overseeing launch operations. The aspects of commercial launch operations in this category relate to public safety (ground/range/flight and the environment) and payload verification.

\*The US national ranges are:

- Eastern Space and Missile Center (Patrick Air Force Base and Cape Canaveral Air Force Station);
- Western Space and Missile Center (Edwards and Vandenberg Air Force Bases);
- White Sands Missile Range;
- Kennedy Space Center;
- Wallops Island Space Flight Center;
- Pacific Missile Center

The development of procedures and regulations for the US commercial launch ranges involves three groups of Federal agencies: -- (1) The Department of Transportation (principally the Federal Aviation Administration and the Materials Transportation Bureau), the Federal Communications Commission, the Occupational Safety and Health Administration, and the Environmental Protection Agency whose existing laws and regulations must be complied with by any prospective range operator; -- (2) The National Aeronautics and Space Administration and the Department of Defense, who provide technical advice; -- (3) The Department of State, Department of Commerce, the Director of Central Intelligence, the Department of Defense and the Arms Control and Disarmament Agency, who would review and approve on any national security, foreign policy, or related issues. Once the regulations and requirements are defined, proposed commercial ranges could be approved for routine commercial ELV operations.

Commercial range operators should be cognizant of these regulations and requirements as they apply to commercial ELV operations and be prepared to demonstrate compliance to the appropriate agency.

For commercial ranges, the US Government agency charged with conducting or monitoring commercial range operations should be responsible for ensuring compliance with all applicable regulations and facilitating requests for waivers or exemptions from other appropriate agencies.



### III. RECOMMENDATIONS

#### A. Commercial ELV Mission Approval

The Working Group recommends that the existing ITAR and FCC approval process, enhanced by the streamlining suggestions in Section IV of this report continue to be utilized for the "mission approval" process. The mission approval process could specify launch site parameters such as locations, timing and launch azimuth where these have security or policy relevance. The Lead Agency should be involved in a monitoring capacity.

#### B. Commercial ELV Operations

##### 1. Commercial ELV operations from National Ranges

The President's policy on Commercialization of ELVs set forth in NSDD-94 encourages the use of the National Ranges for US commercial launch operations as the most effective means for the USG to ensure safe operations and compliance with US treaty obligations. There are existing procedures, standards and structure--developed and evolved over many years of experience with USG launch operations--governing all ground, range, and flight safety on the National Ranges. Air Force Regulations and corresponding NASA requirements governing use of launch facilities are considered sufficient to ensure compliance with international commitments, protect public safety, as well as operations personnel, and the USG investment in facilities, equipment, and other property on the National Ranges. DOD, or NASA, is responsible for controlling operations on the various National Ranges and ensuring compliance with range safety regulations by both USG and commercial ELV operators. No additional requirements or criteria beyond existing DOD and NASA requirements or range standards should be imposed at the National Ranges unless need for such additional requirements is clearly established. All user, including commercial operators, have the option to request waivers to these range standards. DOD and NASA, upon request, shall provide the Lead Agency with available information regarding terms and conditions for use of facilities, services, and equipment.

##### 2. ELV Operations from Commercial Launch Ranges

The primary concerns related to commercial launch ranges involve operational safety, foreign policy and national security. At present, there is only an interim process governing operations from a non-National Range. The Working Group believes, that until new procedures are established for the operation of commercial ranges, the process now being utilized is adequate for controlling the current low level of commercial launch operation activity. (See Appendix B.) Section IV discusses suggested streamlining actions. The Lead Agency will be the focal point for managing the process until procedures and regulations are established for commercial ranges.

The Working Group recommends that Lead Agency chair an interagency group of affected Federal agencies and those that possess appropriate technical and operational expertise in space launches to develop the minimum necessary procedures or regulations for licensing and supervising commercial ELV launch range operations from US commercial ranges. The Lead Agency and its interagency group should utilize the National Range regulations as the starting point for establishing civil licensing procedures and safety regulations for routine launch operations from commercial launch sites. Regulations should not be promulgated without the prior coordination of the agencies represented on the interagency group dealing with commercial range operations. In addition, a provision for waivers or exemptions should be established by each appropriate agency. The interagency group, adhering to the mandate of NSDD-94, should seek to minimize the regulatory burden consistent with operational safety. The Working Group believes that, since ELVs are unmanned and travel from and over mostly unpopulated areas, controlling the flight trajectory and requiring command destruct or other abort mechanism should make it unnecessary to apply aviation certification standards to the vehicle. However, the Working Group recognizes that the DOT will review this issue.

The Working Group recommends that the DOT/FAA be responsible for administering these commercial launch range safety regulations once developed.

### C. Lead Agency Responsibilities

The Working Group reached a consensus on most aspects of the Lead Agency's responsibilities. The Working Group diverged on two issues

- (1) the role of the Lead Agency in reviewing and suggesting changes in US Government policy and;
- (2) the Lead Agency's ability to obtain internal agency information for intragovernmental purposes on matters which it believes could affect the commercialization of ELV's.

The Lead Agency's primary mission should be to oversee and facilitate the implementation of the President's policy on Commercialization of ELVs, which clearly encourages private sector involvement in maintaining a US ELV capability. This agency should also act as a focal point within the USG for private sector contacts and should handle, coordinate, and expedite requests for commercial ELV launches.

The Working Group feels that the Lead Agency responsibilities must transcend those of a coordinating role over regulation/licensing of ELV launches to include an expanded and important

role in encouraging/facilitating ELV commercialization in the US. The "coordinator/encourager" set of responsibilities are essential to successfully implement the President's policy which is to encourage and facilitate the US private sector development of US Commercial ELV's.

The Lead Agency, in consultation and with participation of other affected agencies, should ensure that applicants are subject to consistent procedural requirements for licensing of private sector missions/payloads, including boosters and serve as a single collection point for the documentation necessary to satisfy the various required government approvals for both payloads and launch operations.

In carrying out its oversight role, the Lead Agency should be responsible for establishing reasonable processing deadlines (in coordination with affected agencies) for private sector requests and monitoring the compliance of involved agencies.

The Lead Agency shall have the ability to obtain information from involved agencies on agency actions which may affect the commercialization of ELVs and all involved agencies shall provide the Lead Agency this information to the fullest extent possible. The Lead Agency shall have the responsibility to identify Government policies which might have an adverse impact on ELV commercialization.\*

The Lead Agency should resolve any problems with senior management of the respective agencies. The Lead Agency shall refer matters within the purview of the SIG (Space), which could affect ELV commercialization, to the SIG (Space) forum for review, if it believes such action is necessary. The Lead Agency should be responsible for continuing efforts to promote and encourage commercial space launches in the same manner that other private US commercial enterprises are promoted by US agencies, to streamline the procedures for government approval of licences, and to ensure fair and equitable treatment for all private sector applicants. Finally, the Lead Agency should perform a strategic planning function to look at long-term effects of government activities related to ELV commercialization. The powers granted to the Lead Agency as overseer and facilitator of the overall ELV commercialization process, from the time a license application is submitted through the actual launch, shall

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\*In NASA's view, this paragraph should read, "The Lead Agency will be responsible for explaining to the private sector decisions which have been taken by US Government agencies relating to ELV commercialization which may affect ELV commercialization. For their part, all involved agencies will provide the Lead Agency with relevant, publicly available information for this purpose."

not diminish or abrogate the statutory or operational authority presently exercised by any USG agency. DOD (and in some instances NASA) remain responsible for the approval and control of ground and flight operations on the National Ranges and the DOT/FAA should exercise similar authority over commercial ranges.

### Discussion of Issues

With regard to the above-cited difference in view on the Lead Agency's responsibilities, the majority (State, Commerce, DOD, DOT, DCI, ACDA, JCS, FAA and OSTP) believes that the Lead Agency must actively seek to ensure that commercial ELV operations are not unreasonably inhibited by Government policies and regulations, e.g. existing environmental and safety protections, or conditions relating to the provision of Government facilities and services. The Lead Agency must also recommend changes in these policies as appropriate.

In order to implement these responsibilities, the Lead Agency must have some reasonable access to essential internal information on agency decisions that could affect ELV commercialization. The Lead Agency should, of course, be sensitive to appropriate controls on classified or sensitive bidding information.

The majority believes the NASA description would only permit the Lead Agency to "explain" to the public sector sections of existing policy. The NASA description omits any provision for the Lead Agency to examine Executive Branch policies and provisions to ensure their consistency with the US commitment to ELV commercialization. Further, the NASA description would confine the Lead Agency's access to only publicly available information on decisions affecting ELV commercialization.

With the exception of NASA, the Working Group does not feel that legislation is required for the Lead Agency to perform its functions of encouraging and facilitating ELV commercialization, nor is legislation required for the Lead Agency to obtain sensitive proprietary or confidential data for use within the Government. Such data is intended for use by the Lead Agency in reviewing/coordinating overall Government activities related to ELV commercialization within the context of the established interagency mechanism and would not in any way violate the charter of any other agency. In addition, it has been stated in the report that the Lead Agency will try to resolve issues with senior agency management or refer issues to an appropriate forum such as SIG (Space) for resolution.

As regards the Lead Agency's ability to obtain internal agency information: NASA has concerns that any empowerment of the Lead Agency so as to "have the ability" to obtain information from other agencies could impinge on those other agencies' already existing statutory authorities. As such, this role of the Lead Agency may require new legislation to be adopted -- a time-consuming process which would probably not serve the Administration's interests in encouraging and facilitating ELV commercialization. Furthermore, NASA follows a policy of strict confidentiality regarding such matters as its bids for INTELSAT and other launches. This is done to ensure the integrity of NASA's bids in the face of growing competition in the space transportation field. Similarly, private sector bids for NASA's ELV spare parts and residuals are treated with the same degree of confidentiality and are, by regulation, available only to the SEB. In view of the above policy and practical considerations, specific information on these matters does not fall within the scope of the information which should be provided to other agencies.

As regards the role of the Lead Agency in identifying Government policies which might have an adverse impact on ELV commercialization: Under the NASA approach, all of the involved agencies, as well as the Lead Agency, would have the option to identify and propose changes in policy as they see fit. NASA believes that charging the Lead Agency to recommend changes in USG policy is based on what appears to be an unwarranted assumption that current policies are inappropriate or inadequate. NASA further believes that explicitly assigning the Lead Agency this task could have the effect of generating change for change's sake. Further, NASA is of the opinion that any questions regarding Shuttle pricing or the cost of ELV residuals which may arise in the course of implementing ELV commercialization policy should be considered in the framework of the SIG (Space) which is the body specifically designated by the President to address space policy issues.

NASA also subscribes to the view that the Lead Agency has the responsibility to implement the President's policy of encouraging and facilitating ELV commercialization. However, some of the responsibilities set forth for the Lead Agency by the majority are, by statute, already NASA's responsibilities under the National Aeronautics and Space Act of 1958, as amended. NASA believes that the Lead Agency's role and responsibilities should be expressed differently.

#### D. Implementation of Lead Agency Responsibilities

Some of the members of the Working Group, including the two agencies which are candidates for the Lead Agency role, would prefer an Executive Order to an NSDD because some of the agencies involved in the approval process are not members of the NSC and do not normally operate with NSDD's. Therefore, an Executive Order would create less confusion in the government-wide implementation of commercialization policy. In addition, an Executive Order would get wider distribution within the private sector.

#### E. Management Scheme

The Lead Agency should identify or establish an appropriately visible organizational entity, at the Departmental level, to ensure proper management attention to the task of facilitating the implementation of this Presidential policy. It is recommended that a single point of contact in each affected agency be appointed to coordinate all activities within that agency. These individuals will, in effect, operate as a support team for the Lead Agency to assist it in carrying out its responsibilities. The Lead Agency must, of necessity, defer to other agencies with respect to their specific areas of responsibility such as foreign policy, national security, public safety, etc.

#### F. Lead Agency Designation

In considering potential candidates for the Lead Agency the Working Group agreed on two fundamental criteria. First, since the task for the Lead Agency involves dealing with a potential new private sector industry and encouraging commercial ELV activities, a civilian agency is desirable. Second, in order not to place a regulatory agency in the position of overseeing and facilitating its own activities, it was considered more appropriate to place the Lead Agency responsibility at the Departmental level where regulatory responsibilities do not exist. Agencies' regulatory authorities, strengths/weaknesses, and their operational activities were assessed in the review process. After the Working Group reviewed all potential agencies, two agencies, the Department of Commerce and the Department of Transportation emerged as candidates. The Working Group believes that either agency would be suitable as Lead Agency.

Each agency has developed the following rationales in support of its respective candidacy. (More detailed rationales are contained in Appendix C.)

### THE DEPARTMENT OF COMMERCE AS LEAD AGENCY

The Department of Commerce, by virtue of its mission to promote domestic and international commerce, its long-standing relationship with the business community, and because it has no regulatory responsibility for space-related programs, is well suited to serve as the Lead Agency for the commercialization of Expendable Launch Vehicles (ELVs). Specifically:

- o The Secretary of Commerce is the principal contact in the Executive Branch with the business community. DOC brings business views to bear on a broad range of policy questions with particular emphasis on economic, trade, technology, and industrial issues.
- o Secretary Baldrige serves as Chairman of the Cabinet Council on Commerce and Trade which deals with the principal issues affecting the business community including those involving implementation of the Administration's policy to foster development of a strong private sector.
- o DOC has a successful track record in facilitating resolution of industry-specific problems. Examples include lead responsibility in the Administration for responding to auto and steel industry problems including resolution of tax, environmental, and other regulatory issues.
- o Commerce has expertise in assisting the growth of new firms and industries. It licenses export trading companies, and, through its Office of Industrial Technology Partnerships, works with emerging high tech industries to expand their capital resources.
- o Commerce, as Lead Agency, would have only a limited regulatory role in the approval of commercial launches. Consequently, it would be easier for DOC to serve as a facilitator for expediting the regulatory process. In cases where agencies have both regulatory and "promotional" missions, the regulatory responsibilities tend to dominate. Of all the agencies being considered for the lead role, DOC would be the least likely to fall victim to an overregulation mentality.

In sum, DOC is known as an agency with mandate to foster industrial activity and as an agency with a sensitivity to business needs. Therefore, selection of DOC would send a signal to the private sector that the US government intends to minimize regulatory burdens, and actually to encourage commercialization of ELVs, rather than simply to allow it.

U.S DEPARTMENT OF TRANSPORTATION AS LEAD AGENCY

With the Secretary of Transportation charged by law to promote the development and improvement of transportation provided by private enterprise and to stimulate technological advances in transportation, DOT is a uniquely attractive candidate for the role of Lead Agency for the commercialization of ELV's. At the very least, the ELV industry will share most of the characteristics of transportation industries, e.g., high technology, large capital investment, etc. DOT's strength is that it is capable not only of promoting, facilitating and encouraging, but also identifying the range of barriers that will confront the future space launch industry and developing a National agenda aimed at eliminating those barriers.

DOT affords two critical advantages in serving as Lead Agency for ELV commercialization. DOT has extensive experience in promoting and assisting development of large scale, highly technological industries. This includes fostering aviation growth and development; assisting the Nation's railroads in evolving into profitable entities, and aiding the States in the development of the interstate highway system, and localities in developing sophisticated subway systems.

Also, the Department has unparalleled "hands-on" experience in finding ways to reduce the regulatory requirements applicable to specific transportation industries. In this regard, DOT has been successful in:

- o Increasing aviation competition and growth through airline deregulation and planning for the sunset of the Civil Aeronautics Board;
- o Promoting a stronger truck and rail industry through deregulation and major changes to the role of the Interstate Commerce Commission; and,
- o Saving billions of dollars to the transportation industry by streamlining and eliminating parts of the Department's own regulatory processes.

Finally, three of the Department's organizations are going to be directly involved in the operational aspects of the launch ranges, i.e., the Federal Aviation Administration, U.S. Coast Guard and the Materials Transportation Bureau. In this respect, the Department is in a unique position to effect directly the policies and procedures necessary within these organizations to facilitate and promote commercialization of space activities and to oversee this in conjunction with the efforts of other Federal agencies involved in the process.



IV. STREAMLINING INTERIM PROCEDURES FOR OBTAINING  
GOVERNMENT AUTHORIZATION FOR PRIVATELY OPERATED ELVs

A private launch operator must now obtain three licenses or approvals prior to launching: (1) a license from the State Department Office of Munitions Control for the launch, (2) one from the Federal Communications Commission ("FCC") for radio frequencies, and (3) a waiver of exemption from the Federal Aviation Administration ("FAA") for use of air space.

The Working Group suggests the following near-term streamlining actions:

A. The Lead Agency should be established as the US Government point of contact for the approval of a specific commercial space mission and launch.

B. A Lead Agency Support Team comprised of single points of contact from State, DOD, NASA, DOT and FCC (as a consultant) should be established to act on license applications and expedite action within each respective agency.

C. The Lead Agency should provide a prospective launch operator with a single package of documentation which the Government expects to process for approval.

D. The Lead Agency Support Team should respond to questions and assist license applicants in obtaining and preparing applications and supporting documentation. Agency representatives should have the ability to obtain quick answers, especially to technical questions.

E. The Lead Agency and its Support Team should look for innovative ideas for expediting the process.

F. Each agency that grants or concurs in an application shall undertake to expedite application through its respective systems. The Lead Agency will undertake to respond to the applicant within 30 days of receipt of a complete application for a license. Agencies involved in the issuing of licenses shall provide the responsible US Government Lead Agency with input so that it can effectively provide an approval, disapproval or interim report to the applicant within 30 days. The Lead Agency should continue to provide status reports every 30 days until final approval or disapproval is made.

A P P E N D I X    A

S I G    (S P A C E)    W O R K I N G    G R O U P  
O N  
C O M M E R C I A L    L A U N C H    O P E R A T I O N S

SIG (SPACE) WORKING GROUP ON  
ELV COMMERCIALIZATION

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Office of Science and Technology Policy	Mr. John McCarthy	
Director of Central Intelligence	<div style="border: 1px solid black; width: 200px; height: 30px;"></div>	STAT
Department of Defense	Maj. Thomas Maultsby	
Joint Chiefs of Staff	Lt. Col. James Harshbarger	
Department of Commerce	Ms. Lucy Falcone	
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Federal Aviation Administration	Mr. J. E. Murdock, III Mr. Bert Randall Ms. Irene Howie	
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A P P E N D I X    B

C U R R E N T    U S    G O V E R N M E N T    A P P R O V A L  
P R O C E S S    F O R  
C O M M E R C I A L    L A U N C H    O P E R A T I O N S

AD HOC PROCESS ESTABLISHED FOR CONTROLLING LOW-LEVEL OF  
ACTIVITY IN COMMERCIAL LAUNCH OPERATIONS

The principal features of the ad hoc process established to handle commercial launch operations are summarized as follows.

1. Launch Vehicles

Under the existing process a commercial ELV operator is currently required to obtain three primary approvals for a launch: (a) an Arms Export Control license from the State Department; (b) an experimental radio license from the FCC; and (c) an exemption or clearance from the FAA for use of controlled airspace.

a. Arms Export Control License. The Arms Export Control Act and its implementing regulations on the International Traffic in Arms (ITAR) presently furnish the primary mechanism for controlling launches and any attendant transfer of technology. The State Department administers these procedures.

Under the Act, the State Department designates defense articles, services, and technical data that constitute the Munitions List. No item on the Munitions List may be exported or imported unless the State Department issues a license that authorizes its export. Violators are subject to criminal sanctions. Rockets, launch vehicles, payloads, specifically designated associated equipment, and related technical data are all on the Munitions List. The State Department deems launches to be "exports" since that term means "the sending or taking out of the United States in any manner, any article, equipment or technical data on the Munitions List". The State Department has authority to deny, revoke, suspend or amend licenses if it believes such action would not further world peace, foreign policy, or national security; or because it believes the applicant has violated the Act or the International Traffic in Arms Regulations (ITAR). License decisions may be appealed to a Hearing Commissioner of the State Department and to an Appeals Board of the Commerce Department. The ITAR provides a mechanism for considering the range of concerns that indirectly affect foreign policy, including vehicle hazards that could have foreign policy consequences, the State Department consults NASA, the FAA, and DOD on vehicle safety. To facilitate this process, license applicants may be required to provide "all pertinent documentary information regarding the proposed transaction."

Similarly, in order to assure some compensation to foreign governments, the State Department may secure compensation commitments in the form of insurance and/or indemnification.

b. Federal Communications Commission (FCC) licenses.  
Under the Communications Act of 1934, as amended, and its implementing regulations, the FCC allocates and issues licenses for the radio frequencies necessary for commercial space launch operators to monitor telemetry, track, and destroy errant vehicles.

The FCC has not designated frequencies for commercial space operations. Commercial ELV operators may obtain an experimental radio license which permits the licensee to share assigned frequencies.

c. Federal Aviation Administration (FAA) clearance.  
Under the Federal Aviation Act of 1958, the FAA regulates the navigable airspace and has promulgated operational rules applicable to unmanned rockets. These rules require 24-48 hours notice of the rocket operation to the appropriate Air Traffic Control facility and prohibit rocket operations that create a collision hazard. In addition, unless specifically permitted by FAA exemption, certain other rocket operations are prohibited, including those (a) in controlled airspace, (b) under specified conditions of limited visibility, and (c) within 1500 feet of any person or property not associated with the operations.

## 2. Payloads

Payloads (including orbiting payloads) on the Munitions List are also subject to ITAR licensing procedures.

A P P E N D I X    C

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T H E I R    S U I T A B I L I T Y    A S

L E A D    A G E N C Y

### THE DEPARTMENT OF COMMERCE AS LEAD AGENCY

The Department of Commerce, by virtue of its mission to promote domestic and international commerce, its long-standing relationship with the business community, and because it has no regulatory responsibility for space-related programs, is well suited to serve as the lead agency for the commercialization of Expendable Launch Vehicles (ELVs).

DOC has the following advantages in helping to ensure that the private sector has full opportunity to exploit the policies set forth in NSDD-94:

- The Secretary of Commerce is the principal contact in the Executive Branch with the business community. DOC is charged with promoting business activity and representing business interests. It is a funnel and facilitator for business views on a broad range of policy questions with particular emphasis on economic, trade, technology, and industrial issues.
- Secretary Baldrige serves as Chairman of the Cabinet Council on Commerce and Trade. This Cabinet Council deals with the principal issues affecting the business community including those involving implementation of the Administration's policy to foster development of a strong private sector.
- DOC has a successful track record in facilitating resolution of industry-specific problems. Examples include appointment of a Deputy Assistant Secretary for Automotive Industry Affairs as a part of the Administration's response to auto industry problems; and DOC's role as the lead in the Tripartite Steel Committee and its successor in resolving tax, environmental, and other regulatory issues of concern to the steel industry.
- Commerce has expertise in assisting the growth of new firms and industries. It has responsibility for licensing export trading companies, newly authorized by the Export Trading Act; and, through its Office of Industrial Technology Partnerships, it works with emerging high tech industries to expand their capital resources by using R&D Limited Partnerships.



- Commerce, as lead agency, would have only a limited regulatory role in the approval of commercial launches. Consequently, it would be easier for DOC to serve as a facilitator for expediting the regulatory process. In cases where agencies have both regulatory and "promotional" missions, the regulatory responsibilities tend to dominate. Of all the agencies being considered for the lead role, DOC would be the least likely to fall victim to an overregulation mentality. Furthermore, DOC is identified by the business community as the key agency in helping to develop the Vice President's agenda on deregulation.

In sum, DOC is known as an agency with a mandate to foster industrial activity and as an agency with a sensitivity to business needs. Therefore, selection of DOC would send a signal to the private sector that the US Government intends to minimize regulatory burdens, and actually to encourage commercialization of ELVs, rather than simply to allow it.

Commerce has a number of resources that will be brought to bear to ensure that the policies set forth in NSDD-94 are implemented:

- An office for commercialization of ELVs will be established that will report to the Assistant Secretary for Productivity, Technology, and Innovation (PTI). The technical expertise of PTI will be available to the new office as will the considerable analytic and policy capabilities of other offices reporting to the Under Secretary for Economic Affairs (e.g., the Bureau of Industrial Economics, which is the Government's principal agency for analyzing specific industries).
- The National Oceanic and Atmospheric Administration's (NOAA) expertise with remote sensing satellites will afford a technical backup for the new office.
- The International Trade Administration, through its Foreign Commercial Service and through a proposed office to encourage aerospace sales abroad, will be available to promote exports and to help offset the effects of foreign government-supported aerospace programs.
- The Office of Business Liaison, which reports directly to the Secretary, will assist the new office in efforts to encourage private sector participation.

The Department of Commerce is prepared to serve as the lead agency in commercialization of ELVs. Resources in a number of agencies can be deployed to assist in implementing the President's directive. However, it is DOC's view that, regardless of which agency is selected as the lead, it must be provided with the necessary authority, through an Executive Order outlining the lead and support agency roles, in order to fully implement the policies of NSDD-94. With such authority, DOC would welcome the opportunity to encourage and especially to facilitate private sector development of the new ELV industry.

## THE DEPARTMENT OF TRANSPORTATION AS LEAD AGENCY

The President's goal, as expressed in NSDD-94, is to encourage and facilitate an expanding role for the private sector in the development and use of ELV's. Greater private sector involvement will carry with it an important change in the character of space activities -- from an emphasis on basic R&D and strategic uses to a more routinely available commercial service. As such, ELV operations will be much like a new, emerging mode of transportation, requiring from government agencies promotion and oversight similar to that established for the more traditional modes. Given its extensive experience and expertise in encouraging and facilitating all other elements of the transportation industry, both through direct promotion and through successful efforts to minimize the regulatory burden imposed on the country's transportation sector, DOT is a uniquely attractive candidate for designation as lead agency for the commercialization of ELV's.

### DISCUSSION

DOT would enjoy two critical advantages in serving as lead agency for ELV commercialization: first, its long experience in promoting the development of large-scale, highly technical industries in the context of complex interagency approval processes; and, second, DOT's "hands-on" experience in finding ways to reduce the regulatory requirements applicable to specific transportation industries. DOT's credibility to industry as a result of its long history of success on both fronts is readily discernible in the close and cordial working relationships that the Department enjoys with all of the sectors that come within its purview.

Promotion. It is clear that the kind of promotion implied by the NSDD-94's references to "encouragement and facilitation" is precisely the kind of promotion in which DOT has a proven track record: the stimulation and facilitation of private sector initiatives in a highly technical industry subject to a complex multi-agency regulatory oversight.

A wide variety of such promotional responsibilities can be found in DOT's enabling legislation. The Department was established by Congress, among other reasons, to "make easier the development and improvement of coordinated transportation to be provided by private enterprise to the greatest extent feasible" and to "stimulate technological advances in transportation." 49 U.S.C. 101(b). The Secretary of Transportation is also specifically charged by Congress to promote the revitalization of the U.S. rail system so that it "will remain viable in the private sector of the economy...."

49 U.S.C. 801(a). In carrying out the Department's aviation responsibilities, the Secretary must consider the "promotion, encouragement, and development of civil aeronautics."

49 U.S.C. 1303(b). The Secretary's responsibility for the promotion of the merchant marine is exercised through the Maritime Administration. 46 U.S.C. 1101. In promoting research and development in the field of high-speed ground transportation, the Secretary is required to "provide for financial participation by private industry to the maximum extent practicable." 49 U.S.C. 1632. In promoting the construction and rehabilitation of the nation's highway system, the Secretary is required to "encourage the substantial minimization of paperwork and interagency decision procedures and the best use of available manpower and funds so as to prevent needless duplication and unnecessary delays at all levels of government." 23 U.S.C. 101(c).

Regulatory Facilitation. Many of DOT's component agencies also have specific regulatory responsibilities. With respect to ELV's, the FAA, the Coast Guard, and the Materials Transportation Bureau are each likely to have a regulatory role. The fact that these functions are carried out in agencies directly responsible to the Secretary of Transportation, enhances DOT's ability to carry out effectively the mandate of NSDD-94.

First, to the extent that opportunities for expedited treatment of launch applications are present within a particular agency, that agency is more likely to exploit those opportunities if encouraged by its parent organization than if the suggestion comes from an outside source. A number of factors undoubtedly contribute to this result: the greater familiarity of the parent with the subordinate agency's overall program; the typically greater flexibility of the subordinate agency in dealing with its parent organization; the ability of the parent to support and defend the subordinate agency's reduction of regulatory procedures in response to possible criticism from complaining interests (e.g., safety, environment).

Second, the organization of DOT's different responsibilities has been proven effective in improving the management of a variety of functions that have both promotional and regulatory aspects. For example, the agency charged with promoting the development of the U.S. merchant marine -- the Maritime Administration -- was transferred from the Department of Commerce to DOT in 1981 despite the fact that DOT was (and is) also parent agency to the government's principal regulator of ocean shipping operations, the US Coast Guard. It is clear that DOT's comprehensive authority and visibility throughout the transportation sector has clearly enhanced MarAd's effectiveness, while enabling the Department to oversee the Coast Guard's regulatory process more knowledgably and credibly.

In short, with its depth of experience and broad-base of industry contacts, the Department is uniquely positioned to identify and eliminate potential barriers to private sector space launch development and to promote and facilitate the growth of the private sector space industry. In addition, with its extensive background in creating a healthier and less regulated transportation environment, the Department has the proven capability to streamline and expedite the Federal Government's launch range approval and licensing processes.

#### Departmental Focal Point

In large measure, the lead agency's role is a national policy and planning function involving regulatory review, economic analysis, issue resolution, intergovernmental and private sector interaction, as well as the national and international promotion of the commercialization of space launch activities. If selected as lead agency, DOT would assign the lead agency responsibility to the Office of the Secretary (OST), traditionally the focal point within DOT for all transportation policy actions of national and international importance. the philosophy of the Department is to foster the development of the transportation industry by minimizing the "heavy hand" of government. In this regard, DOT has been successful in:

- Increasing aviation competition and growth through airline deregulation and the planning for the sunset of the Civil Aeronautics Board;
- Promoting a stronger truck and rail industry through deregulation and major changes to the role of the Interstate Commerce Commission;
- Saving billions of dollars to the transportation industry by streamlining and eliminating parts of the Department's own regulatory processes;
- Assisting Conrail, which emerged from the restructured Penn Central Railroad, in evolving into a profitable entity; and,
- Promoting United States interests through international aviation agreements.

### A High-Visibility Office

Assigned to perform this function in OST would be special office reporting directly to the Secretary or an Assistant Secretary. At a minimum, this office would be responsible for developing a strategy to promote a U.S. commercial ELV industry, commercial space launch promotion and facilitation, economic and regulatory analysis, and domestic commercialization issues identification and resolution. This office would also be the single point of commercial launch range license application and notification of final approval, serving as the Federal Government's contact point for the private sector with regard to private industry requirements and development problems.

While most of the lead agency responsibility is policy-oriented, the processing of the licensing application would be largely operational. These activities, such as distribution, coordination, and day-to-day tracking would be handled through the FAA. In addition, FAA would handle its normal review and approval processes as those processes relate to FAA's responsibility for management of the airspace and aviation safety. As the Working Group proposes, FAA would be primarily responsible for Federal oversight of the safety of commercial launch ranges once they are approved, constructed and fully operational. This latter role would be similar to that performed by the Department of Defense for national launch ranges.

### Resources

The Secretary would appoint the Director of the new office, which would have a staff to handle the lead agency function. Considerable Departmental resources are available to the office, including the Transportation Systems Center in Cambridge, Massachusetts. This facility, which has considerable expertise in socio-economics, industry analysis, technology assessment, and strategic planning, has interaction with the private sector's R&D community and other Federal agencies. In addition, the new office would draw on the capabilities of several other DOT research or test facilities, including FAA's Aviation Technical Center and the Federal Highway Administration Research Center. Also available to the office, through OST, the US Coast Guard, FAA, Federal Highway Administration, and the Research and Special Programs Administration, are some of the leading Federal Government experts in heavy construction, aeronautical engineering, hazardous materials, communications, land management, eminent domain, and the legislative and regulatory requirements (international, Federal, State, and local) affecting the future space industry. The office would be able to draw upon the Department's advanced technological

knowledge and capabilities resulting from FAA's development of the National Airspace Systems Plan, a \$10 billion modernization of the airspace communications, radar, navigation aids and computer operation systems.

Finally, the Secretary would appoint an advisory committee consisting of representatives from the private sector and key Federal agencies to provide advice with regard to current practices and the future of the commercial ELV industry.

#### Timeframe

The Department's first task would be to assess the full range of actions the lead agency would have to address in order to implement NSDD-94 successfully. This review would include discussions with the Working Group members, their respective organizations, and private sector leaders in this area. Based on this review, the organization procedure and future specific direction of this office would be determined. This office could be operational within three months.

#### Summary

In sum, the Department of Transportation has the mission, capability and the interest to assume the responsibilities of the lead agency, and welcomes this opportunity to assist in the Federal effort to commercialize the nation's space industry.